IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Bruce G. Gold Application No. Not yet assigned

Filed: March 19, 2004 Confirmation No. --

For: COMPOSITIONS AND METHODS FOR

PROMOTING NERVE REGENERATION

Examiner: Not yet assigned Art Unit: Not yet assigned

Attorney Reference No. 899-68196

MAIL STOP PATENT APPLICATION COMMISSIONER FOR PATENTS P.O. BOX 1450 ALEXANDRIA, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT FOR CONTINUING APPLICATIONS

Listed on the accompanying form PTO-1449 are several English-language documents.

Applicant respectfully requests that such documents be listed as references cited on the issued patent.

The present application relies upon U.S. Patent Application No. 10/030,904, which was filed January 8, 2002, for an earlier filing date under 35 U.S.C. § 120. Furthermore, most documents listed on the accompanying form PTO-1449 were disclosed to or cited by the Patent Office in the earlier U.S. application.

If the present application was filed after June 30, 2003, copies of United States patents and United States published patent applications do not have to be provided to the Patent Office. This requirement of 37 C.F.R. § 1.98(a)(2)(i) has been waived by the United States Patent and

-1-

EXPRESS MAIL NO. EV331580935US PATENT

Trademark Office pursuant to the Official Gazette Notice on August 5, 2003 (1276 OG 55).

Applicant will provide copies of such patents upon request.

Copies of the documents listed on the accompanying form PTO-1449 that were cited by

or submitted to the Patent Office in the earlier application need not be sent to the Patent Office

pursuant to 37 C.F.R. § 1.98. However, applicant will furnish the Patent Office with such copies

upon request. Several documents that were not previously submitted to the Patent Office in the

earlier application are enclosed.

The filing of this Information Disclosure Statement shall not be construed to be an

admission that the information cited in the statement is, or is considered to be, prior art or

otherwise material to patentability as defined in 37 C.F.R. §1.56.

Respectfully submitted,

KLARQUIST SPARKMAN, LLP

Bv

Aden A. Rehms, Ph.D.

Registration No. 55,935

One World Trade Center, Suite 1600

121 S.W. Salmon Street

Portland, Oregon 97204

Telephone: (503) 226-7391 Facsimile: (503) 228-9446

- 2 -

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Attorney Docket Number	899-68196
Application Number	Not yet assigned
Filing Date	
First Named Inventor	Gold
Art Unit	Not yet assigned
Examiner Name	Not yet assigned

U.S. PATENT DOCUMENTS

NOTE: If this application was filed after June 30, 2003, copies of United States patents and United States published patent applications do not have to be provided to the Patent Office. This requirement of 37 C.F.R. § 1.98(a)(2)(i) has been waived by the United States Patent and Trademark Office pursuant to the Official Gazette Notice on August 5, 2003 (1276 OG 55).

Examiner's Initials*	Cite No. (optional)	Number	Publication Date	Name of Applicant or Patentee
		4,228,079	10.14.1980	Calton
		5,192,773	3.9.1993	Armistead et al.
		5,330,993	7.19.1994	Armistead et al.
		5,516,797	5.14.1996	Armistead et al.
		5,525,523	6.11.1996	Soldin
		5,543,423	8.6.1996	Zelle et al.
		5,612,350	3.18.1997	Or et al.
		5,614,547	3.25.1997	Hamilton et al.
		5,620,971	4.15.1997	Armistead et al.
		5,622,970	4.22.1997	Armistead et al.
		5,639,592	6.17.1997	Evans et al.
		5,650,430	7.22.1997	Sugimura et al.
		5,654,332	8.5.1997	Armistead
		5,780,484	7.14.1998	Zelle et al.
		5,811,434	9.22.1998	Zelle et al.
		5,840,736	11.24.1998	Zelle et al.

SIGNATURE: CONSIDERED:	EXAMINER SIGNATURE:	DATE CONSIDERED:
------------------------	------------------------	---------------------

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Attorney Docket Number	899-68196
Application Number	Not yet assigned
Filing Date	
First Named Inventor	Gold
Art Unit	Not yet assigned
Examiner Name	Not yet assigned

U.S. PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Number	Publication Date	Name of Applicant or Patentee
		5,968,921	10.19.1999	Gold
		6,037,370	3.14.2000	Armistead

FOREIGN PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Country	Number	Publication Date	Name of Applicant or Patentee
		PCT	WO 92/04370	3.19.1992	
		PCT	WO 92/19593	11.12.1992	
		PCT	WO 92/19745	11.12.1992	
		PCT	WO 92/21313	12.10.1992	
	,	PCT	WO 93/07269	4.15.1993	
		PCT	WO 93/23548	11.25.1993	
	'	PCT	WO 96/25928	8.29.1996	Feng et al.
		PCT	WO 96/40140	12.19.1996	
		PCT	WO 96/40633	12.19.1996	
	, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,	PCT	WO 97/18828	5.29.1997	
		PCT	WO 98/20891	5.22.1998	
		PCT	WO 98/20892	5.22.1998	
		PCT	WO 98/20893	5.22.1998	

EXAMINER DATE	SIGNATURE:	CONSIDERED:	
EXAMINER DATE			
	EXAMINER	DATE	

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Attorney Docket Number	899-68196
Application Number	Not yet assigned
Filing Date	
First Named Inventor	Gold
Art Unit	Not yet assigned
Examiner Name	Not yet assigned

FOREIGN PATENT DOCUMENTS

Examiner's Initials*	Cite No. (optional)	Country	Number	Publication Date	Name of Applicant or Patentee			
		PCT	WO 98/30900	7.1998	Trier			
		PCT	WO 99/21552	5.6.1999				
		PCT	WO 99/51223	10.14.1999	DeFranco et al.			
Examiner's Initials*	Cite No.		ОТІ	HER DOCUMENTS	S			
Illitais	(optional)	,	jor Binding Protein		on-Macrocyclic Inhibitors Of oppressant FK506," Acta Cryst			
		Bornfeldt et al., "Insulin-Like Growth Factor-I And Platelet-Derived Growth Factor-BB Induce Directed Migration Of Human Arterial Smooth Muscle Cell Via Signaling Pathways That Are District From Those Of Proliferation," <i>J Clin Invest.</i> , Vol. 93, pp. 1266-74, Abstract only (1994).						
			Bozzo et al., "Role Of Tyrosine Phosphorylation In Matrix-Induced Neurite Outgrowth In Human Neuroblastoma Cells," <i>Exp. Cell Res.</i> , Vol. 214, pp. 313-22 (1994).					
		Histological, And	Immunological Re		ation With FK 506: Functional, ter Discontinuation of 401 (1995).			
			_	Allotransplant Immu, Vol. 27, pp. 1877-1	mosuppressed With FK 506: 878 (1995).			
		Interleukin-1beta	In Cortical Synapto togen-Activated Pr	somes: Involvemen	Ca2+Concentration By t Of A Pertussis Toxin-Sensitive preport., Vol. 9, pp. 1923-1927,			
		• • • • • • • • • • • • • • • • • • • •	New Bastadin from , p. 153-157 (Janua	. •	aplysilla Purpurea," J. of Natural			

EXAMINER	DATE
SIGNATURE:	CONSIDERED:
01011110101	

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

Attorney Docket Number 899-68196 Not yet assigned **Application Number** Filing Date INFORMATION DISCLOSURE STATEMENT First Named Inventor Gold BY APPLICANT Art Unit Not yet assigned Not yet assigned **Examiner Name** Examiner's Cite No. **OTHER DOCUMENTS** (optional) Initials* Chang, "Hyaluronidase Enhancement Of TNF-Mediated Cell Death Is Reversed By TGF-Beta 1," Am J Physiol., Vol. 273, pp. C1987-C1994, Abstract only (1997). Chao et al., "Differential Raf Requirement For Activation Of Mitogen-Activated Protein Kinase By Growth Factors, Phorbol Esters, And Calcuim," J Biol Chem., Vol. 269, pp. 7337-7341, Abstract only (1994). Chen et al., "Bastadin 10 Stabilized the Open Conformation of the Ryanodine-sesitive ca2+ Channel in an FKBP-12 Dependent Manner" abstract, J. Biol. Chem. Vol. 274, p. 32603-32612 (1999). Czar et al., "Geldanamycin, A Heat Shock Protein 90-Binding Benzoquinone Ansamycin, Inhibits Steroid-Dependent Translocation Of The Glucocorticoid Receptor From The Cytoplasm To The Nucleus," Biochemistry, Vol. 36, pp. 7776-7785 (1997). David et al., "Anoxal Elongation Into Peripheral Nervious Systme "Bridges" After Central Nervous System Injury In Adult Rats," Science, Vol. 214, pp. 931-933 (1981). DiJulio et al., "Ryanodine Receptor Type III (Ry3R) Identification In Mouse Parotid Acini. Properties And Modulation Of [3H] Ryanodine-Binding Sites," J. Biol Chem., Vol. 272, pp. 15687-15696, Abstract only (1997). Edwards et al., "Heat Shock Alters The Composition Of Heteromeric Steroids Receptor Complexes And Enhances Receptor Activity In Vivo." Biochem., Vol. 31, pp. 2482-2491. Abstract only (1992). Franklin et al., "Bastadin 20 and Bastadin o-Sulfate Esters from Ianthella Basta: Novel Modulators of the Ry₁R FKBP12 Receptor Complex," J. of Natural Products, Vol. 59, p. 1121-1127 (1996). Frodin et al., "Glucose, Other Secretagogues, And Nerve Growth Factor Stimulate Mitogen-Activated Protein Kinase In The Insulin-Secreting Beta-Cell Line, INS-1," J Biol Chem., Vol. 270, pp. 7882-7889, Abstract only (1995). Gold, "FK506 and the Role of the Immunophilin FKBP-52 in Nerve Regeneration," Drug Metabolism Reviews, Vol. 31, No. 3, pp. 649-663 (1999). Gulavita et al., "Isolation and Structure Elucidation of 34-Sulfatobastadin 13, An Inhibitor of the Endothelin a Receptor, from a Marine Sponge of the Genus Ianthella," J. of Natural

EXAMINER	DATE
SIGNATURE:	CONSIDERED:

Products, Vol. 56, p. 1613-1617 (September 1993).

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

Attorney Docket Number 899-68196 Not yet assigned **Application Number** Filing Date INFORMATION DISCLOSURE STATEMENT BY APPLICANT First Named Inventor Gold Art Unit Not yet assigned Not yet assigned **Examiner Name** Examiner's Cite No. **OTHER DOCUMENTS** (optional) Initials* Pahan et al., "Sphingomyelinase And Ceramide Stimulate The Expression Of Inducible Nitric-Oxide Synthase In Rat Primary Astrocytes," J. Biol Chem., Vol. 273, pp. 2591-2600, Abstract only (1998). Pessah et al., "Bastadins Relate Ryanodine-Sensitive And -Insensitive Ca2+ Efflux Pathways In Skeletal SR And BC3H1 Cells," Am J Physiol., Vol. 272, pp. C601-614, Abstract only (1997). Pettit et al., "Antineoplastic Agents, 326. The Stereochemistry of Bastadins 8, 10, and 12 from the Bismarck Archipelago Marine Sponge Iantehella Basta," J. of Natural Products, Vol. 58, p. 680-688 (May 1995). Pratt et al., "Steroid Receptor Interactions With Heat Shock Protein And Immunophilin Chaperones," Endocrine Reviews, Vol. 18, pp. 306-360 (1997). Pratt, "The hsp90-based Chaperone System: Involvement in Signal Transduction from a Variety of Hormone and Growth Factor Receptors," Hsp90 and Signal Transduction, pp. 420-434 (1998). Pratt, "The Role Of The hsp90-Based Chaperone System In Signal Transduction By Nuclear Receptors And Receptors Signaling Via MAP Kinase," Annu. Rev. Pharmacol. Toxicol., Vol. 37, pp. 297-326 (1997). Preis et al., "Neuronal Cell Differentiation Of Human Neuroblastoma Cells By Retinoic Acid Plus Herbimycin A," Cancer Res., Vol. 48, pp. 6530-6534 (1988). Ratajczak et al., "Cyclophilin 40 (CyP-40), Mapping Of Its hsp90 Binding Domain And Evidence That FKBP52 Competes With CyP-40 For hsp90 Binding," J. Biol. Chem., Vol. 271, pp. 2961-2965 (1996). Samanta et al., "Hydrogen Peroxide Enchances Signal-Responsive Arachidonic Acid Release From Neurons: Role of Mitogen-Activated Protein Kinase," J Neurochem., Vol. 70, pp. 2082-2090, Abstract only (1998). Sanchez et al., "Immunophilins, Heat Shock Proteins, And Glucocorticoid Receptor Actions in Vivo," Methods, Vol. 9, pp. 188-200 (1996).

EXAMINER DATE SIGNATURE: CONS	TE NSIDERED:
-------------------------------	-----------------

72, pp. 2256-2263 (1999).

Sano et al., "Radicicol Potentiates Neurotrophin-mediated Neurite Outgrowth and

Survival of Cultured Sensory Neurons from Chick Embryo," J. of Neurochemistry, Vol.

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

Attorney Docket Number 899-68196 **Application Number** Not yet assigned Filing Date INFORMATION DISCLOSURE STATEMENT First Named Inventor Gold BY APPLICANT Not yet assigned Art Unit Not yet assigned **Examiner Name** Examiner's Cite No. OTHER DOCUMENTS (optional) Initials* Schliess et al., "Mitogen-Activated Protein Kinases Mediate The Stimulation Of Bile Acid Secretion By Tauroursodeoxycholate In Rat Liver," Gastroenterology, Vol. 113, pp. 1306-1314, Abstract only (1997). Schulte et al., "Antibiotic Radicicol Binds to the N-terminal Domain of Hsp90 and Shares Important Biologic Activities With Geldanamycin," Cell Stress & Chaperones, Vol. 3, p. (1996).Segnitz et al., "The Function Of Steroid Hormone Receptors Is Inhibited By The hsp90-Specific Compound Geldanamycin," J. Biol. Chem., Vol. 272, pp. 18694-18701 (1997). Sherwood et al., "Differential Regulation Of MAP Kinase, p70(S6K), And Akt By Contraction And Insulin In Rat Skeletal Muscle," Am J Physiol., Vol. 276, pp. E870-E878, Abstract only (1999). Shimada et al., "Induction Of Differentiation Of HL-60 Cells By The Anti-Fungal Antibiotic, Radicicol," J Antibiot (Tokyo), Vol. 48, pp. 824-830, Abstract only (1995). Smith, "Dynamics Of Heat Shock Protein 90-Progesterone Receptor Binding And The Disactivation Loop Model For Steroid Receptor,", Mol. Endocrinol., Vol. 7, pp. 1418-1429, Abstract only (1993). Smith, "Elements Of Molecular Neurobiology," 2nd ed., John Wiley & Sons, pp. 141-142 (1996).Smith et al., "Progesterone Receptor Structure And Function Altered By Geldanamycin, An hsp90-Binding Agent," Molecular and Cellular Biology, Vol. 15, pp. 6804-6812 (1995).Stancato et al., "The hsp90-binding Antibiotic Geldanamycin Decreases Raf Levels And Epidermal Growth Factor Signaling Without Disrupting Formation Of Signaling Complexes Or Reducing The Specific Enzymatic Activity Of Raf Kinase," J. Biol. Chem., Vol. 272, pp. 4013-4020 (1997). Stebbins et al., "Crystal Structure Of An Hsp90-Geldanamycin Complex: Targeting Of A Protein Chaperone By An Antitumor Agent," Cell, Vol. 89, pp. 239-250 (1997). Tanzer et al., "Gonadal Steroid Regulation Of Hamster Facial Nerve Regulation: Effects

EXAMINER	DATE
SIGNATURE:	CONSIDERED:

Of Dihydrotestosterone And Estradiol," Exp. Neurol., Vol. 146, pp. 258-264 (1997).

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

899-68196 Attorney Docket Number **Application Number** Not yet assigned Filing Date INFORMATION DISCLOSURE STATEMENT **BY APPLICANT** First Named Inventor Gold Art Unit Not yet assigned Not yet assigned **Examiner Name** Examiner's Cite No. OTHER DOCUMENTS (optional) Initials* Tomono et al., "Inhibitors Of Calcineurin Block Expression Of Cyclins A And E Induced By Fibroblast Growth Factor In Swiss 3T3 Fibroblasts," Arch Biochem Biophys., Vol. 353, pp. 374-378, Abstract only (1998). Tsuchiya et al., "Expression Of Leptin Receptor In Lung: Leptin As A Growth Factor," Eur J. Pharmacol., Vol. 365, pp. 273-279, Abstract only (1999). Tumlin et al., "Aldosterone And Dexamethasone Stimulate Calcineurin Activity Through A Transcription-Independent Mechanism Involving Steroid Receptor-Associated Heat Shock Proteins," J. Clin. Investigation, Vol. 99, pp. 1217-1223, Abstract only (1997). Weiss et al., "MEK Inhibition Augments Raf Activity, But Has Variable Effects On Mitogenesis, In Vascular Smooth Muscle Cells," Am J Physiol., Vol. 274, pp. C1521-C1529, Abstract only (1998). Wells et al., "Gel Matrix Vehicles For Growth Factor Application In Nerve Gap Injuries Repaired With Tubes: A Comparison Of Biomatrix, Collagen, And Methylcellulose," Exp. Neurol., Vol. 146, pp. 395-402 (1997). Whitesell et al., "Benzoquinonoid Ansamycins Possess Selective Tumoricidal Activity Unrelated To src Kinase Inhibition," Cancer Res., Vol. 52, pp. 1721-1728 (1992). Whitesell et al., "Inhibition Of Heat Shock Protein HSP90-pp60" Heteroprotein Complex Formation By Benzoquinone Ansamycins: Essential Role For Stress Proteins in Oncogenic Transformation," Proc. Natl. Acad. Sci. USA, Vol. 91, pp. 8324-8328 (1994).

EXAMINER	DATE
SIGNATURE:	CONSIDERED:

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.

			Attorney Docket Number	899-68196	
			Application Number	Not yet assigned	
INFORMATION DISCLOSURE STATEMENT		Filing Date			
	E	SY APPLICANT	First Named Inventor	Gold	
			Art Unit	Not yet assigned	
			Examiner Name	Not yet assigned	
Examiner's Initials*	Cite No. (optional)	OTHER DOCUMENTS			
		Itoh et al., "A Protein Factor For Ras p21-Dependent Activation Of Mitogen-Activated Protein (MAP) Kinase Through MAP Kinase Kinase," <i>Proc Natl Acad Sci U.S.A.</i> , Vol. 90, pp. 975-979, Abstract only (1993).			
		Jackowski, "Neural Injury Repair: Hope For The Future As Barriers To Effective CNS Regeneration Become Clearer," <i>Brit. J. Neurosurg</i> , Vol. 9, pp. 303-317 (1995).			
		Kato et al., "BMK1/ERK5 Regulates Serum-Induced Early Gene Expression Through Transcription Factor MEF2C," <i>EMBO J.</i> , Vol. 16, pp. 7054-7066, Abstract only (1997). Kuhn et al., "Progesterone-Binding Components Of Chick Oviduct. Biochemical Characterization Of Purified Oviduct Progesterone Receptor B Subunit," <i>J. Biol. Chem.</i> , Vol. 252, pp. 308-317, Abstract only (1977).			
		Kwon et al., "Potent And Specific Inhibition Of p60v-src Protein Kinase Both In Vivo And In Vitro By Radicicol," <i>Cancer Res.</i> , Vol. 52, pp. 6926-6930, Abstract only (1992).			
		Mack et al., "Novel Modulators of Skeletal Muscle FKBP12/Calcium Channel Complex from Ianthella Basta. Role of FKBP12 in Channel Gating" abstract, <i>J. Biol. Chem.</i> , Vol. 269, p. 23236-23249 (1994).			
		Miao et al., "Cytotoxic Metabolites from the Sponge Ianthella Basta Collected in Papua New Guinea," <i>J. of Natural Products</i> , Vol. 33, p. 1441-1446 (NovDec. 1990). Miller et al., "Increased Neurite Outgrowth Induced By Inhibition Of Protein Tyrosine Kinase Activity In PC12 Pheochromocytoma Cells," <i>J. Neurochem.</i> , Vol. 60, pp. 2134-2144 (1993).			
		Ohtsuki et al., "Delayed Neuronal De of Protein Tyrosine Phosphorylation C1097 (1996).			
		Owens-Grillo et al., "Binding Of Ima (hsp90) Via A Tetratricopeptide Rep Plants," <i>Biochemistry</i> , Vol. 35, pp. 1	eat Domain Is A Conserved	í	
		Owens-Grillo et al., "The Cyclosport Binding Immunophilin hsp56 Bind T Independent Cytosolic Heterocomple Receptor," J. Biol. Chem., Vol. 270,	To A Common Site On hsp90 exes With The Untransforme	And Exist In	

EXAMINER	DATE
SIGNATURE:	CONSIDERED:

^{*} Examiner: Initial if reference considered, whether or not in conformance with MPEP 609. Draw line through cite if not in conformance and not considered. Include copy of this form with next communication to applicant.